the discharging orifice. We should therefore, in conformity with these principles, not open the chest in a depending position; for, if, unfortunately, afterwards, putrefactive changes take place, the septic gases floating above the other contents *have no exit*, are absorbed by the lining membrane of the cavity, excite inflammation of the latter, contaminate the blood, and produce typhoid symptoms. To prevent, then, putrid absorption, and its concomitant evils, let the empyema be opened above—that is to say (when the case admits of our doing so), between the fourth and fifth ribs, anteriorly, and provide, if necessary, for the constant drainage of the abscess by the introduction of a Chassaignac's tube.[1]

"In cases, however, of hydrothorax, or sero-albuminous, sero-sanguineous, and passive collections in the pleural sac, our operative proceedings should be guided by very different principles. In pyothorax a pyogenic membrane is already formed, and matter is making its way to the surface; by evacuating the collection we only complete an operation already commenced. But the other class of effusions referred to are very differently circumstanced; they are not included in an adventitious sac, or newly organized membrane, but lie in contact with the serous surface in a healthy condition, or only slightly altered in anatomical structure and vital endowments; the fluid evinces no tendency to reach the surface; if it disappear it is directly absorbed from the serous cavity, and is never evacuated externally without having previously undergone more or less of purulent metamorphosis. Therefore we should endeavour, in dealing with these immature collections, to avoid all causes of irritation, and to prevent, by all means in our power, the higher or suppurative grade of action not yet attained under existing conditions; in short, we should make the practice of art approach as closely as possible to nature's own operations, and not proceed in untimely advance of them. Accordingly the fluid ought, only in the first instance, to be partially withdrawn; the remainder may be absorbed into the system; if not, the tapping may be repeated. Valvular perforation of the integuments and the employment of a vulcanized India rubber bag and stopcock, or the ingenious trocar and canula invented by Mr. Charles R. Thompson, will effectually prevent the entrance of atmospheric air.[2]

"By proceeding in this manner we do not overstrain the vital processes of the economy in their progress towards the restoration of health, but only disencumber them of impediments that check their free action, and, with full confidence in her resources, leave Nature to complete the cure by the continuance of her own efforts.

"We first endeavour to comprehend the purposes and *modus operandi* of the *vis medicatrix*, and then follow faithfully in her path, without seeking, by premature interference, to reverse the natural order of pathological events, or force upon her contingencies for which she is as yet unprepared."

21. *On Tobacco as a Cause of Angina Pectoris.*—Among the bad effects produced by the excessive use of tobacco may be mentioned vertigo, chronic sore throat, dyspepsia, and cough accompanied with emaciation simulating phthisis. To these morbid conditions we must now, according to Dr. Beau, add angina pectoris. This opinion is founded upon eight observations contained in an interesting paper lately laid before the Academy of Sciences. These facts have an additional value because they agree perfectly with the experiments of

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[1] It may be necessary, in certain cases, to make a counter opening inferiorly, and draw the tube completely across the cavity. This plan of "drainage" has been adopted in two instances, by Dr. Goodfellow, with signal success. He reports them in the 42d volume of the Medico-Chirurgical Transactions. The practice, also, of iodine injections, after the cavity has been reduced to the condition of a fistula, is well worthy of trial.

[2] As suppurative action is not anticipated in the mode of operating referred to in the text, the point of election need not, as in pyothorax, deviate from that generally selected—namely, between the fifth and sixth or sixth and seventh ribs, and midway between the sternum and spine. When any doubt exists as to the nature of the fluid, the introduction of Dr. Babington's explorator will be found preferable to the grooved needle in ordinary use.

M. Claude Bernard upon nicotine, and are illustrations of the doctrine which considers angina pectoris as being an affection of the muscular substance of the heart, with irradiations in the thorax, the neck, and the upper extremities.

M. Bernard has proved that nicotine, a poisonous alkaloid as powerful as prussic acid, though acting in a different manner, produces its principal effects upon the nerves, upon the muscles, but especially upon the vascular system. In a moderately strong dose, this substance produces in the muscles convulsive movements which may terminate in a permanently tetanic condition; whilst, if the dose is small, the first effects are produced upon the heart and lungs, giving rise to acceleration of the respiration, and increased energy of the cardiac pulsations. A clear proof that the nerves are the organs of transmission of this complicated action is, that after the division of the pneumogastric none of these phenomena are manifested. It is important to add, that the action upon the muscular system is produced exclusively when the nicotine is pure and in sufficient quantity; whilst, if it is diluted or mixed, it acts specially upon the respiratory apparatus and the heart.

Of course, Dr. Beau does not suppose that the abuse of tobacco is the only cause of angina. On the contrary, he says, that the causes of this affection are numerous, and he has only pointed out an additional cause which had not been previously attended to. He also adds that for the production of angina among smokers a series of conditions is required, which is only rarely met with. These conditions are: 1st, the excessive use of tobacco; 2d, a special susceptibility of the individual; 3d, debilitating influences, such as anxiety, fatigue, an enfeebled condition of the disgestive organs, etc., which, preventing the organism from getting rid of the tobacco absorbed, allow it to accumulate to such a degree, that nicotine is present in sufficient quantity to produce its poisonous influence upon the heart.

The following are the observations appealed to by Dr. Beau.

1st. A small proprietor, sixty years of age, passed the greater part of his time in smoking. For about a month he had often experienced, during the night, attacks of palpitation, with oppression and pain radiating to his shoulders. He ceased smoking; the nocturnal attacks disappeared completely at the same time that his digestive functions improved. At the end of three months he recommenced to smoke, and the attacks returned. He then definitively abandoned the use of tobacco, and the attacks of angina ceased, never to return.

2d. A medical practitioner, fifty years of age, feeble and dyspeptic, although appearing healthy and robust, smoked cigarettes as much as his occupations would permit. During some time he suffered from palpitation with severe pain and constriction of the chest, which came on indifferently during the day or night. He gave up tobacco, and the attacks disappeared. One day, he was in the company of smokers, and although he did not himself smoke, he could not help breathing an atmosphere impregnated with tobacco. The following night he had an attack.

3d. A medical practitioner in the country, thirty-five years of age, was in the constant habit of smoking cigarettes while going about to pay visits. For some time he had eaten very little, and without appetite. One morning, having eaten nothing, and while smoking, he was suddenly seized with severe pain in the region of the heart, with a sense of constriction in the upper part of the chest. He could neither walk nor speak, the pulse was imperceptible, the hands cold. The attack lasted half an hour. The patient came to Paris and consulted Dr. Beau, by whose advice he gave up the use of tobacco. He returned home, promising to write to Dr. Beau if he had another attack. Nothing has since been heard of him.

4th. A young Spaniard, thirty years of age, was constantly smoking cigarettes. His appetite entirely failed, and digestion was difficult. One evening, while smoking, he was suddenly seized with a violent pain in the chest, as if he had been squeezed in a vice; his pulse was imperceptible. The attack lasted ten minutes. Much alarmed, he consented to smoke a great deal less, and there has been no return of the symptoms of angina.

5th. A physician who has renounced tobacco on account of the gastric derangement which he suffered from, experienced at the time when he was a smoker nocturnal pains coming on in paroxysms, and characterized by a constriction of the thorax with palpitations, and neuralgic pains shooting into the neck. He is now completely free from these seizures.

6th. A merchant, who for fifteen or twenty years had suffered from dyspepsia, occasioned by the immoderate use of tobacco, has suffered for about two months from nocturnal attacks, characterized by agonizing pain in the region of the heart, with palpitations, and painful radiations extending to both shoulders; the appearance of the face is altered, the pulse is small and intermittent. In spite of the existence of these symptoms, this person smokes more than ever.

7th. An old man of seventy-five, fresh and vigorous, smoked a great deal in order to distract his mind from various sources of annoyance, although he had had several slight suffocative paroxysms. On a Saturday, he had an attak of angina, which lasted for half an hour; next day, the attack recurred; on Monday morning, he was found dead in bed.

8th. A foreign diplomatist who smoked a great deal, and who was in a feeble condition although he appeared robust, was seized one evening in returning home with an attack of angina; his pulse was small, his hands cold, his appearance choleraic. He fell asleep at eleven o'clock, and awoke next morning at his usual hour. He was able to go through all his ordinary duties, and at five o'clock in the afternoon was seated smoking in his arm-chair, when he suddenly expired. On post-mortem examination the only lesion found was a fatty condition of the heart.—*Ed. Med. Journ.* Aug., 1862, from *Journ. de Méd. et de Chirurg. pract.*, July, 1862.

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22. *Rheumatic Pericarditis and Endocarditis.*—Dr. Joseph Bell, Clinical Lecturer, Glasgow Royal Infirmary, has published (*Glasgow Medical Journ.*, April and July, 1862) some interesting practical remarks on the diagnosis and treatment of rheumatic pericarditis and endocarditis.

From the facts and reasonings adduced in that paper he makes the following conclusions:—

1st. That when the physical symptoms either of pericarditis or endocarditis become manifested in a case of rheumatic fever, we are entitled to infer that these diseases exist, irrespective of the absence of the general or constitutional symptoms which usually attend the idiopathic forms of these diseases.

2d. That we are justified in considering that the effects are capable of being removed, and are therefore amenable to treatment.

3d. That those remedies which are calculated to remove congestion and promote absorption, form the proper therapeutic agents; and that of these bleeding, mercury, and iodide of potassium, are among the most powerful and useful.

4th. That when the action of the heart becomes enfeebled in consequence of effusion into the pericardium, the free use of stimulants becomes absolutely necessary.

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23. *The Physiology and Pathology of the Supra-renal Capsules.*—The following are the conclusions arrived at by Dr. Harley in his prize essay on this subject: 1. The supra-renal capsules are not fœtal organs, but perform their functions up to the latest periods of life. 2. The supra-renal capsules are not absolutely essential to life. When removed artificially or destroyed by disease, their function is vicariously performed by the other "ductless glands," more especially by the thymus. 3. Young animals support the removal of the supra-renal capsules better than old ones (probably on account of the greater activity of the thymus in early life). 4. When only one capsule is extirpated, the other performs the double function. 5. A wounded capsule heals readily. 6. The supra-renal capsules are not marked by any great sensibility. 7. The removal of the right is more frequently attended with fatal results than removal of the left supra-renal capsule. 8. The lower animals are liable to disease of the supra-renal capsules. 9. When death follows upon the extirpation of the supra-renal capsules, in the majority of cases it is in consequence of the injury done to the solar plexus. 10. The supra-renal capsules are richly supplied by bloodvessels as well as by nerves. 11. Their function is apparently intimately connected with the formation of the red blood corpuscles.